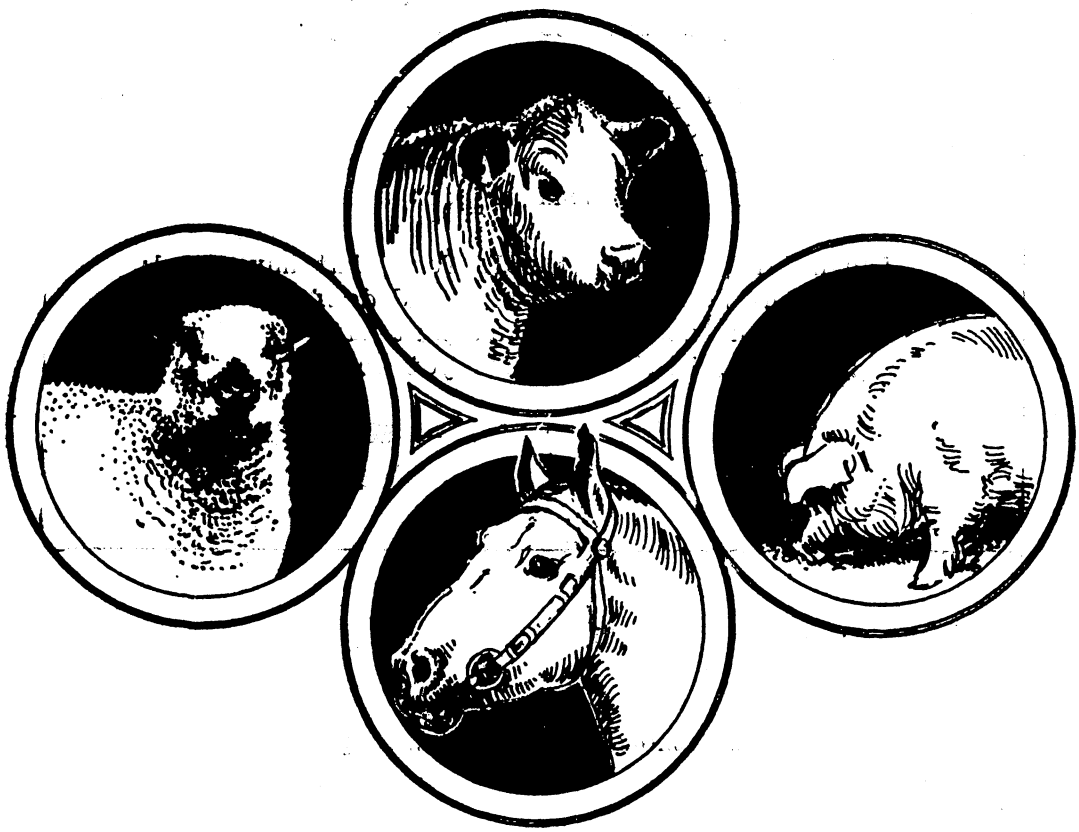
The EXTENSION ANIMAL HUSBANDMAN



UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
D.C.

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OPPORTUNITY

They do me wrong who say I come no more,
When once I knock and fail to find you in;
For every day I stand outside your door
And bid you wake, to rise and fight and win.

Wail not for precious chances passed away;
Weep not for golden chances on the wane.
Each night I burn the records of the day;
At sunset every soul is born again.

Laugh like the boy at splendors that have sped;
To vanished joys be blind and deaf and dumb.
My judgment seals the dead past with its dead,
But never binds a moment yet to come.

— Walter Malone

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UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C.

THE EXTENSION ANIMAL HUSBANDMAN

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Serial Number 12 -- -- December 1928.

Special Articles in this Issue:

Also:

RANGE LIVESTOCK STUDIES

by
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U. S. Department of Agriculture.

The cooperative range livestock production studies that have been conducted by the Department and a number of Western States promise subject matter for extension programs somewhat different in nature from those available heretofore. The first projects established under the arrangement were in Texas and Colorado in the fall of 1922. The results from the Colorado study has been presented in a publication issued by the Colorado Agricultural College. The Texas material will be available presently in bulletin form.

In the spring of 1925 an extensive survey of cattle ranches was made in the Northern Great Plains region. The material from the study is now available in Technical Bulletin No. 45, "A Study of Ranch Organization and Methods of Range Cattle Production in the Northern Great Plains Region." Following the survey a cooperative project between the Department and the agricultural experiment stations of Montana, Wyoming, North and South Dakota was established. The study is confined to 60 cattle ranches and detailed information concerning all phases of organization and operation is being obtained on each of them. The route method of study is being employed, and the work will be completed next spring.

Concurrent with the survey in the Northern Great Plains region a cooperative study confined to the Sand Hills section of Nebraska was made. A second survey in the summer of 1926 was made by the Nebraska Agricultural College. The material has been presented in publications from that institution.

In 1925 a cooperative project between the Department and the Texas Experiment Station was established in the Edwards Plateau Region of Texas. The project is being handled under the route method of study, and is confined to 35 ranches. The region is one of diversified ranching, a common practice being for two or three kinds of livestock to be carried in the same pastures. The ranches in the study are carrying sheep and cattle, sheep and goats, or sheep, cattle, and goats.

In the spring and summer of 1926 a general survey of range livestock production was made in the Southwest. The results of that survey are available in Technical Bulletin No. 68, "Ranch Organization and Methods of Livestock Production in the Southwest." Following the

survey a cooperative project between the Department and the agricultural experiment stations of Arizona and New Mexico was begun. The study is confined to 30 sheep and 10 goat ranches equally divided between the two States. All phases of production, similar to the North Plains project, are being considered. The research phase of the project will probably be concluded in the spring of 1930.

Concurrent with the general survey in the Southwest a study of sheep and cattle ranches in Utah was made, and the results published in two bulletins by the Utah Agricultural College.

The time is at hand for the findings of the range livestock studies to be incorporated into extension programs if the greatest value is to be realized from them. As a means of accomplishing the best results in that direction it seems advisable that the research and extension agencies of the States that have participated in range livestock studies should cooperate in planning such programs. Valuable material supplementary to that available from experiment stations may be had from a single year's records on a number of ranches within a State. Records of several years' operation of the same ranches are, of course, preferable. A reasonable presumption is that State agencies which are familiar with the details of situations as they prevail within their States are in better position to interpret and make detailed application of the material than others less familiar with the conditions.

To date approximately 1,250 ranch records have been obtained in the various range livestock studies made since the beginning of the field work in 1922. An analysis has been made of each record individually to determine the greatest problems of production as well as outstanding accomplishments of ranch operators. The problems fall into two groups: Those confronting ranchmen as individuals operating particular units, and those confined to communities, districts, or regions and over which individual ranchmen have little or no control.

Considerable attention has been given to the problems of the individual, especially those factors responsible for the wide variations of ranch returns from year to year. It is very evident that climatic conditions explain more fully the high operating costs or low returns than any other factor encountered by producers. The establishment of that fact serves to magnify the possibilities of employing practical systems of range improvement and conservation in all regions as a means of offsetting the depressing influences of climate. In regions where feed production is an integral part of ranching, feed reserves occupy as important a place in the system of operation as does range conservation in those areas where year-long

grazing is the predominating practice. From the basis of native forage and feed production may be traced practically all the animal husbandry and minor economic problems which confront ranchmen in their operations.

Study and comparison of the records have revealed extremely wide variations in conditions that prevail between ranches located within relatively small areas.

Having given considerable thought to the possible use of the material in extension programs it seems that extension methods will have to be confined to consideration of individual ranches rather than groups of ranches. Further incentive to individual application of the material is found in the characteristic individuality of range livestock men.

How far research agencies will be able to get that part of the material dealing with problems of taxation, land policies, etc., into service channels has not yet been determined. That part of the material can not be assigned a minor value as it affects ranching. Stable organizations are essential to successful ranch operation over a period of years. The public agencies through their land and taxation policies are to a greater degree responsible for the lack of stable organizations in those States having relatively large acreages of publicly owned lands than are the individual ranchmen themselves. The necessity for treatment of those economic ills is reflected in the problems of producers in those areas where all the grazing land has not passed to private ownership.

Limited results may be expected from the application or extension of the material obtained from ranching studies if the program is to end with the solution of minor animal husbandry and economic problems that usually reflect in production costs to the extent of only a few cents per head per animal produced or carried on the ranch. It is imperative that the more influential economic factors of ranching be considered by qualified agencies, and efforts made to bring about situations conducive to stable organizations, equitable taxation, available finance suitable as to time and interest rates, and marketing organizations that avoid speculative channels.

AMERICAN SOCIETY OF ANIMAL PRODUCTION

The extension section of the annual meeting of the above organization held at Chicago on November 30, was attended by representatives from twenty States. A full program emphasizing extension methods was presented. The proceedings of the Society, soon to be published, will contain a digest of the various papers read. The following officers were elected for the ensuing year -- C. D. Lowe, U.S.D.A., Chairman; J. W. Burch, Missouri, Vice Chairman; and Wayland Rhoads, Kentucky, Secretary.

IOWA'S PORK PRODUCTION CONTEST

by

E. L. Quaife, Iowa Extension Service

For the last two years the Animal Husbandry Division of the Iowa State College Extension Service has sponsored a pork production contest.

The rules have been simple. No herds of less than eight sows could be entered, and all sows farrowing on the farm were considered in calculating the production per sow. The contestant ear-marked his litters so that the pigs could be identified, and then fed them for six months. When the pigs all averaged 180 days they were weighed and the number of pounds of pork determined per sow. The contestant with the greatest amount of pork per sow was the winner.

This contest has brought out many interesting and practical points concerning hog production. It has really been a demonstration of methods, as it shows the methods that are producing the best results.

Last year the greatest amount of pork produced was 1,930 pounds per sow. This year the best record was 2,151 pounds, or better than a 200-pound increase over last year.

Cross-breeding Shows up Well

In both years the winners have practiced cross breeding. Last year the breeding stock which produced the winning pigs was Spotted Poland China sows mated to a Poland China boar, while this year it was Chester White sows mated to a Spotted Poland China boar. In 1927, there were 9 out of the top 15 farmers who cross-bred. In 1928 the percentage did not run quite as high. The 1928 winning lot of pigs was exceptional from a type standpoint. They weighed 244 pounds at six months of age. They were rather rangy and at the above weight were not lean enough to go in the bacon class, neither were they fat enough to be classed as fat hogs. They topped the market the day they were sold.

Maturity of Breeding Stock Important

Another factor which seemed to be an important one was the maturity of the breeding stock. In the winning herds as a general thing the sows were tried sows mated to a tried boar.

The high herd this year consisted of 3 mature sows and 7 gilts. The 3 old sows saved 32 pigs, or an average of about 11, while the gilts saved an average of 8 pigs. The second high herd was made up of all old sows mated to an old boar.

Sanitation Plays Big Factor

In the case of the winners in this contest they practiced the clean-ground principle of raising their pigs. Many of the men who dropped out could trace their disappointing results to worms and necro-

enteritis picked up in the old lots. The winner in 1928 scalded his houses with lye and water, he washed the sows' udders, and arranged so that the pigs were farrowed on reasonably clean ground.

Self-Feeding of Dry Feeds Practiced

Very little slopping was resorted to. In fact, the winning contestants both years self-fed their feeds in the dry form. Corn, tankage, linseed meal, oats, skimmilk, alfalfa, and clover were the feeds most commonly fed.

This contest is simply a comparison of production practices. Not as many entrants finished as we would liked to have seen, but when considering the many obstacles to overcome in bringing a winning lot of pigs through, it is not surprising that many drop out.

To encourage entrants $1,000 in cash has been awarded both years to be distributed among the high ten. This money has been contributed by various agencies interested in pork production. First prize amounted to $200 and the awards ranged down to $40 for tenth place. It is planned to conduct the contest another year.

RESULTS OF THE IOWA PIG CROP CONTEST, 1928

Name	County	Breed	No. sows	No. pigs marketed per sow	Av. wt. per pig(lbs)	Pounds pork per sow
Verwers, C. C.	Decatur	S.P. X C.W.	10	8.8	244.4	2,151
Bycroft, Geo.& Son	Adams	Duroc	10	9.1	231 1/3	2,105.4
Stites, R. L.	Appanoose	Duroc	8	8.25	220	1,817
Juhl, Wm.	Muscatine	Duroc	13	9.23	196.77	1,816
Flynn, M. M.	Washington	Duroc	14	8.5	204.8	1,741.4
Keary, A. J.	Calhoun	Poland	8	9.87	156+	1,560
Harland, I.	Taylor	Chester	8	9.75	157	1,512
Christensen, John	Page	S.P. X D.J.	17	7.94	191.9	1,501
Swatosh, F.	Poweshiek	Duroc	14	7.85	178	1,398
Wendt, Wm.	Bremer	Chester	11	6.90	202	1,395
Askew, Wm.	Van Buren	Duroc	11	8.75	162	1,386
O'Donnell, Roy ...	Story	Poland	14	7.71	175	1,349
Fausch, Dave	Story	Chester	11	7.27	179	1,302
Baker, O. N.	Calhoun	Duroc	12	7.58	161	1,249
Flynn, M. M.	Washington	Duroc	31	7.1	158.3	1,130
Kirkholm, J. P....	Ida	Poland	16	7.5	150	1,125
Racek, Val	Story	D.J. X C.W.	16	6.93	156	1,083
Turnipseed, Roy ..	Washington	Chester	13	6.61	158.9	1,051
Turnipseed, L. W.	Washington	Hampshire	17	6.8	151	1,036
Retz, Paul	Calhoun	D.J. X C.W.	10	7.1	123	875
Carlson, Elof.....	Ida	Chester	8	5.6	158.7	853
McArthur, K.	Ida	Mixed	22	6.45	113.75	734

MINNESOTA PORK PRODUCTION CONTEST, 1928

by

H. G. Zavoral, Minnesota Extension Service.

J. H. Nahrgang of Winona County, won first place in the 1928 Minnesota Pork Production Contest. Mr. Nahrgang was successful in raising 92 pigs from 10 sows. The average weight was 228.0 lbs. per pig and 2,097.6 lbs. per litter. A total of 20,976 lbs. of pork was produced, or more than ten tons from ten sows. This is the best official record that has ever been made in Minnesota and entitles Mr. Nahrgan to be crowned the 1928 champion hog producer of this State.

The winning herd consisted of purebred Poland Chinas. The sows are not registered, but only purebred Poland China boars have been used on Mr. Nahrgang's farm for many years. According to Mr. Nahrgang's figures his hogs made a 100 lb. gain on 351 lbs of grain at a cost of about $6.12 a hundredweight. The selling price was $10.25 a hundred.

John Calkins, Martin County, made the next best record by raising 72 pigs from 8 sows to the average weight of 215.5 lbs. with an average weight per litter of 1,939.5 lbs.

The object of the Minnesota Pork Production Contest is to locate the most efficient producers of pork and to demonstrate the most effective methods of breeding, feeding, and management.

The basis of awards is the average number of pounds of pork produced per sow. The Minnesota Livestock Breeders association supports this contest.

The success of the winners in this contest was due to a high standing in the following important factors:

1. Raising a high average number of pigs per sow.
   a. The average number of pigs saved per sow for the first four contestants was 8.5
   b. The average number of pigs saved per sow in Minnesota is 5.0
2. Raising pigs under a system of sanitation and keeping them free from worms and filth-borne diseases.
3. Full feeding of pigs from the time they begin to eat until market weight is reached.
4. Using well bred, good-type hogs that make rapid gains and finish for market at from six to seven months of age.

MINNESOTA PORK PRODUCTION CONTEST RESULTS

1928

No.	County	Breeder	Breed	No. of sows	Number of pigs		Aver. wt. per litter	Aver. wt. per pig
					Farrowed	Raised	Lbs.	Lbs.
1	Winona	J. H. Nahrgang	Poland China	10	109	92	2,097.6	228
2	Martin	John E. Calkins	Poland China	8	79	72	1,939.5	215.5
3	Houston	Ole A. Myhre	Gr. Ch. White	5	39	39	1,620	207.7
4	Stevens	Robert Stark		6	45	45	1,553.2	207.1
5	Olmsted	Elmer Christgau	Duroc Jersey	6	50	50	1,522.7	182.8
6	Lyon	Charles Wyffles	Poland China	8	70	61	1,521.7	199.7
7	Lincoln	Andrew Thompson	Duroc Jersey	9	84	70	1,515.1	195
8	Martin	M. H. Silcox	Duroc Jersey	8	94	71	1,471.3	165.9
9	Dakota	Chas. G. Kohls	Chester White	9	73	66	1,356.4	185
10	Lyon	Anthony Ufkins	Duroc Jersey	9	89	70	1,268.0	163.2
11	Martin	C.H.Beckendorf & Son		52	516	404	1,042.1	134.3
12	Freeborn	Andrew Hanson	Poland China	6	53	37	974.5	158.2
13	Renville	A. E. Draheim	Chester White	8	69	53	847.3	128
14	Dakota	G. L. Sayers	Poland China	5	44	38	820.8	108
15	Yellow Medicine	Lund Bros.	Duroc Jersey	19	170	107	631.7	112.2

Grand average weight per litter ..... 1,345.4 lbs.
" " " " pig ..... 171.2 "

The young mother asked the man who supplied her with milk if he kept any calves, and seemed pleased when he said that he did.

"Then" she continued brightly, "bring me a pint of calf's milk every day. I think cow's milk is too strong for the baby." -- Exchange

MISSOURI HOG PRODUCTION CONTEST

by
J. W. Burch, Missouri Extension Service.

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It will be remembered that our rules for this contest classify contestants into four groups in accordance with the number of brood sows owned. Class A is for those having 15 or more sows, Class B for those with from 10 to 14 sows, Class C for those with from 6 to 9 sows and Class D for those with from 3 to 5 sows.

Those in Class A were required to make an average of 1400 pounds or more pork per sow; those in Class B, a minimum of 1500 pounds; those in Class C, 1600 pounds; and those in Class D, 1800 pounds.

We had a total of 50 entries, 13 of which made the required goals. These were all awarded gold medals and the three highest in each class got cash prized of $50, $30, and $20, in addition.

Missouri Hog Production Contest Results
1928

Name	No. sows	No. pigs marketed	Average Lbs.per litter	Average Lbs.per head	Feed per 100 pounds gain	
					Corn	Protein feed
Geo. Tatman	21	191	1,656	182	8.6 bu.	17.4 lbs. tankage & oil meal
Max Darrow	10	85	1,889	222.3	6.0 bu.	30.6 lbs. tankage & oil meal
Albert Schluckebier ..	10	88	1,815	206	5.6 bu.	34 lbs tankage & oil meal
J. E. Baker	12	103	1,772	206	5.7 bu.	43 lbs tankage & oil meal
Lee Olvis	11	96	1,584	182	6.1 bu.	20.1 lbs tankage
G. A. Diddle	11	91	1,565	189	4.87 bu.	73 lbs skin milk 53.7 lbs. pig meal
Geo. Graham & Sons ...	13	89	1,529	223	4.5 bu.	97 lbs. skim milk 19.1 lbs. tankage & oil meal
R.N. Semon	7	60	1,907	222.5	6.8 bu.	16.1 lbs. tankage
G. A. Callison	8	74	1,872	208	6.7 bu.	18 lbs tankage
N. W. Teachers	6	45	1,860	245	3.8 bu. 52# shorts	15 lbs. tankage 45 lbs. milk 18 gal. garbage
E. W. Matt	7	52	1,602	215	7.1 bu.	21 lbs pig meal & tankage
F. C. Whitman	4	37	2,081	225	6.4 bu.	28.8 lbs.tankage
McNulty Brothers	3	27	1,971	219	6.7 bu.	14 lbs. milk 23.7 lbs tankage & pig meal

WHAT'S NEW IN THE STATES

Pennsylvania

J. M. Vial, beef cattle and horse specialist, resigned effective June 30, to become manager of Montcalm Farms. Mr. Vial was succeeded by Charles A. Burge, a graduate of the Iowa State College with teaching experience at his Alma Mater and the University of California. Dr. H. H. Havner, leader of the animal husbandry project and vice director of extension work, has resigned effective January 1, to become vice president in charge of service, of Philip R. Park, Inc., with headquarters at Chicago.

Montana

D. E. Richards, former county agricultural agent at Canyon City, Oregon, was appointed livestock specialist to succeed R. L. Waddell, resigned, effective September 20.

North Dakota

S. G. Denner, a graduate of Iowa State College with a Master's degree from the University of Minnesota has been appointed livestock specialist to succeed Geo. J. Baker who resigned October 1, to devote his time to station and college activities.

Missouri

T. A. Ewing, former county agricultural agent in Boone County has been appointed to the animal husbandry extension staff to fill the vacancy caused by the resignation of S. F. Russell.

Idaho

E. F. Rinehart, animal husbandry specialist, judged the breeding classes of Rambouillet sheep at the recent International Live Stock Exposition.

Oklahoma

Paul G. Adams, livestock specialist, coached the winning 4-H club livestock judging team at the recent International Live Stock Exposition. This was the third year that this honor fell to a team from Oklahoma.

Kentucky

R. C. Miller, sheep specialist, recently returned from a flying trip to the British Isles where in company with Mr. Belknap, a prominent Kentucky sheep breeder, he selected some 140 head of high-class breeding stock for flock owners of his State.

Connecticut

Ten baby beef steers have recently been placed with 4-H club

members. More steers doubtless could be placed, but it is difficult to locate them ofthe right age and price. These steers are being fed by three club members who were in beef-club work last year, and five new members.

Our club members did well at the Eastern States Exposition this year, having won first, second, and third place in the fitting and showing contest and first in feeding and management. Most of the steers placed well in their respective classes and all but one steer brought 20 cents per pound or more in the sale. All members made money on their steers.

Interest in sheep club work is increasing, four of our counties now having organized clubs. A member of the Spring Hill club showed a Cheviot lamb at the State fair and at Springfield, winning $49 in prize money. -- L. V. Tirrell.

New Mexico

Up until the past year practically all the sheep in this State have been grazed on the open range under the care of herders. During the last few years labor costs have increased, and the quality of labor has decreased to the point where small ranchmen could not continue in the business under those conditions. We have been advocating the building of wolf and dog proof woven wire fences and a system of grazing the sheep without herders. At present we have about fifteen men who are building such fences, the tracts inclosed varying from 160 acres to six sections. Those who have the fences already built are very enthusiastic, and it is our opinion that it is only a question of time until all the range which is directly controlled by ranchmen will be under such fence, and the animals grazed without the expense of herders.

The cost of the fence is rather high, but only equals the wages of the herders for about one year. The system also places the small ranchman on an economical basis. -- W. L. Black.

A FARM POLICY

The farm is more than a place of business - it is a place of living and a home. * * * The whole foundation and hope of our nation is the maintained individualism of our people. Farming is, and must continue to be, an individualistic business of small units and independent ownership. The farmer is the outstanding example of the economically free individual. * * * No solution (of his problems) that makes for consolidation into large farms and mechanized production can fit into our national hopes and ideals.

-- Herbert Hoover

IDAHO FARM LAMB MARKETING

by
E. F. Rinehart, Idaho Extension Service.

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While most of the lamb marketing extension work in Idaho has been with range lambs, within recent years the increase in the number of farm flocks has made the shipping of farm lambs a big problem. It has been handled as an extension enterprise in co-operation with a local committee appointed by the county associations. In seven of the fourteen counties making cooperative shipments, the county agent is a member of this committee. The lambs for shipment have all been selected on the farm. The county agent makes out the itinerary and notifies each member as to the time of arrival so that the sheep are in the corrals. The committee selects the lambs to go, each lamb being branded. The same brand is used for all classes of lambs, the location of the brand indicating the class and grade as fat, feeder, or seconds. The weighing is done at the stockyards on shipping day by one member of the committee, either the county agent or local banker. The weights are the full weights without shrinkage. The shipment is made to market in the name of the bank. Net returns are figured on the basis of the receiving weight and each owner's share computed by the committee.

The data which follows have been condensed from the cooperative shipment of Idaho farm lambs during the summer of 1928. A total of 143 carloads were reported shipped cooperatively of which number the extension service had assisted with the selection and marketing of 91 carloads. In 1927 the number of carloads shipped cooperatively was 74. The information on the entire number of lambs is the market data only, obtained through cooperators on the markets that are working with us on the problem of marketing the range lambs.

The weights and prices are the actual market figures on the 143 carloads reported as cooperative shipments. Home weights were sent in by 8 of the counties, a total of 73 carloads. On these the shrinkage varied from 4½ to 10 per cent, the wide range being due to a variation of weighing conditions.

Idaho Farm Lambs Marketed Summer of 1928

	June	July	August	September	Total
Total No. lambs....	12,709	12,593	6,242	3,743	35,287
No. fat Lambs.....	8,616	7,039	2,176	1,314	19,145
No. feeder Lambs...	4,093	5,554	4,066	2,429	16,142
Per cent killers...	67.78	55.89	34.86	35.10	54.26
Per cent feeders...	32.22	44.11	65.14	64.90	45.74

Idaho Farm Lambs Marketed Summer of 1928 (Cont'd.)

	June	July	August	September	Total
Fat Lambs					
Number	8,616	7,039	2,176	1,314	19,145
Av. weight	75.16	76.56	82.11	82.52	76.97
Av. price per cwt...	$16.57	15.22	14.08	13.67	15.76
Av. price per lamb	$12.45	11.65	11.55	11.28	12.13
Feeder Lambs					
Number	4,093	5,554	4,066	2,429	16,142
Av. weight	65.28	66.59	70.01	69.85	67.61
Av. price per cwt...	$13.07	12.84	13.03	12.96	12.97
Av. price per lamb..	$ 8.53	8.55	9.12	9.05	8.77

Details of 33 cars on which accurate weights were obtained.
Counties of Cassia, Lincoln, Minidoka, and Twin Falls.

Average loading,	246	Lambs
	19	Ewes
	5	Wethers
	1	Ram
	271	Head

Average number head loaded	271
" " pounds loaded	22,765
" " " sold	21,166
Average shrink per car	1,599
" " per cent	7.03%
" shipping expense per car	$233.15
" home expense per car	21.22
Average cost shipping each car	$254.37
Average cost shipping each cwt., Home weight	$1.12
" " " " " Market "	1.20
Cost of shrink, per cwt.	1.01
Total shipping expense based on home weights	2.13

It needs a man who has grown gentle and almost motherly to be a shepherd. -- H. Somerset Bullock.

COOPERATIVE WOOL MARKETING IN PENNSYLVANIA

by
W. B. Connell, Sheep and Wool Extension Specialist.

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Sheep husbandry in Pennsylvania is of a diversified nature. The sheep population of the State is somewhat concentrated in three counties: Greene, Washington, and Fayette. In this section only fine wool is produced, with the first two counties producing half of the wool in the State.

Mutton sheep population is quite scattered through the remainder of the State. The small clips of wool formerly were sold to local merchants who were obliged to handle them on a rather wide margin. These wools were purchased on a flat price regardless of quality. As a result, this type of marketing proved to be a distinct handicap to the sheep improvement program.

In 1920 the livestock extension department of the Pennsylvania State College inaugurated a cooperative wool-marketing project. A number of counties organized wool growers' associations, with the management taken care of by boards of nine directors each.

More than 3,500,000 pounds of wool have been marketed by the associations in the last nine years. Seventy-five per cent of these wools have been sold over a grade, which gives the farmers a chance to see their wool graded in comparison with that of neighbors. A definite idea of what the market demands is thus secured. The grading table drives home a very effective lesson on the value of good blood, proper feed and care, and correct preparation of fleeces for market. This lesson directly affects the pocketbook of the grower and usually receives a hearty response. This statement is fortified by the figures in the following table:

	Merchantable Wool pounds	Rejects pounds	Total pounds	Per cent of rejects
1920	247,973	31,534	278,507	12.7
1921	216,239	14,881	231,120	6.9
1922	229,115	15,044	244,159	5.5
1923	238,671	11,338	250,009	4.7
1924	256,611	12,254	268,865	4.7
1925	261,489	9,808	271,294	3.7
1926	387,820	13,549	401,369	3.4
1927	342,502	11,499	354,001	3.3
1928	364,408	13,118	377,526	3.6

Pennsylvania's 28 county wool growers' associations have just finished marketing 528,000 pounds of wool. Of this amount, 377,526

pounds were sold on grade. Many of the associations that sold on a flat price basis this year will doubtless market over a grade next year. The groups that have made constant improvement are reaching the place where their members bring in very little off-grade wools.

The men in the wool trade are familiar with the quality of the wools of these different pools, which makes it possible for them to sell their product at a distinct advantage. The superior quality of the wools sold through the different organizations has become a well established fact in the trade.

There is no phase of our sheep improvement work that is not directly reflected at the grading table. The use of better rams on grade flocks throughout the State in the last 10 years has been largely responsible for the marked improvement of the wool clip. It is recognized that a large part of the sheepman's income is derived from the sale of market lambs, but any change in his breeding operations that spells improvement in his clip also means a step in the right direction so far as the market lambs are concerned.

Working in conjunction with the county fair associations, the wool growers' associations offer premium money for pens of lambs sired by purebred rams. These organizations have become permanent institutions for carrying an effective sheep program.

Pennsylvania has increased the wool clip more than one and one-half pounds per head in the last 12 years, and here again the cooperative wool marketing activities have played no small part in the improvement.

Filial Admiration

Henry's father, a farmer and stock grower, took several carloads of hogs, reared on his own farm, to Chicago, where he sold them to a great meat packing firm.

While in Chicago, Henry's father received the following letter from his little boy:

"Dear Papa; Did you see Mr. Armour kill that big fat hog with the black tail, and didn't he think he was a buster? I was sorry to see the hogs leave the farm, and most of all you.

Your loving son,

HENRY."

ALABAMA'S EARLY LAMB CONTEST

To stimulate interest in early lamb production and to gather information as to the best methods used by lamb producers the first Alabama early lamb contest is being conducted under the supervision of R. S. Sugg and F. W. Burns, livestock specialists. The general requirements for entry into the contest are as follows:

1. Any Alabama lamb producer having 25 or more ewes may enroll without cost.
2. Application for enrollment must be made with the county agricultural agent on or before December 1, 1928.
3. Lambs must be dropped after December 1, 1928.
4. Ewes must be marked by notches in the ear and lambs from each ewe marked the same to enable identification and as an aid in culling.
5. All lambs must be docked and the grade ram lambs castrated.
6. Contestants will be required to keep accurate records of feed, date of birth, number of times treated for stomach worms, average weight of lamb when sold, and profit on project.
7. All contest lambs will be shown and sold at the May Farm Bureau lamb sale at the Union Stock Yards, Montgomery, Ala.
8. All contest lambs will be weighed and graded at the Union Stock Yards by a committee of two or more persons, one of whom shall be the county agricultural agent or his representative.

The Basis of Awards are as Follows:

1. Awards will be based on the average number of pounds of lamb produced per ewe, counting the entire number of ewes in flock, the percentage of "top" lambs and the feed cost per pound. They will be scored as follows:

   Average weight of lamb produced per ewe ... 30%
   Percentage of lambs grading as "tops" 50%
   Lowest feed cost per pound 20%

2. In case all lambs are not marketed, such as the best ewe lambs which may be held back for breeding purposes, the county agricultural agent and one other disinterested party will count the number held back, classify them to the best of their ability, and the contestant will be given credit for these lambs in computing his percentages. The average weight of the contestant's lambs sold in the May sale of the same grade will be the basis for this credit.

3. Each contestant will be required to post on a placard the data on ration used, feed cost per pound, and the average weight of lamb per ewe, in order to be eligible for prize money.

Awards

The following premiums, given by the Union Stock Yards, will be awarded:

1st prize	$75.00
2nd "	60.00
3rd "	50.00
4th "	40.00
5th "	30.00

To the county agricultural agent in whose county the first prize is awarded and who has the largest number of entries and the largest percentage of "top" lambs considering entire number of lambs from his county will be given a free trip to the International Livestock Exposition in Chicago. In determining the winner the following score will be used:

Award of first prize	50%
Greatest percentage of "top" lambs, considering total number from county	30%
Largest number of entries	20%

This project will be followed up by personal visits by the county agricultural agent and the livestock specialists. Monthly news letters of instruction will be mailed to all contestants and county agents.

By combining the best known methods of production with cooperative marketing it is hoped to stimulate interest in sheep production in Alabama.

"He was of those whose skill assigns the prize
For creatures fed in pens and stalls and sties,
And who in places where improvers meet
To fill the land with fatness, had a seat;
Whose plans encourage, and who journals keep
And talk with lords about a breed of sheep."

BETTER HITCH DEMONSTRATIONS IN WISCONSIN

by
J. G. Fuller, University of Wisconsin.

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Better hitching demonstrations were started by the Agricultural College in Wisconsin in February, 1927. In that year forty-five demonstrations were held, and in 1928 eighty-five demonstrations, with an average attendance of thirty-five. There has been no particular rule as to time or place. Successful meetings were held under almost every situation and occasionally demonstrations scheduled were cancelled. County agents and high school teachers of agriculture have greatly assisted in the work and a number of them are now giving their own demonstrations. Valuable assistance and support was also given the work by stallion owners, blacksmiths, and harness makers.

The most successful and convincing demonstrations were those held on farms where the hitch was made to implements for which it is best suited. Although it took a short time to change the plows for the tandem hitch, they operated better and the work was greatly speeded up under the new system of hitching and driving. Demonstrations held in country towns on Saturday afternoons or on market days in the spring just before field work started where hitches were made to a sleigh in the streets, drew large attendance and created a great deal of interest. At this time farmers were especially interested in hitching methods and time-saving devices, helpful in handling large teams. Blacksmiths and harness makers were then able to see the hitches work and to observe how the "bucking-back" ropes and eveners were made. On most occasions they posted, in their places of business, literature and directions for making the hitch equipment.

Demonstrations held at county fairs were not as uniformly successful as those at smaller fairs, and where the demonstration was the main feature. At the larger fairs there were too many competing attractions, and the hitch had to be made before a changing group of people, mainly interested in entertainment. However, several demonstrations at fairs were very successful when held in the morning and were well advertised among the local farmers.

During the months of April and October a special hitch demonstrator was employed by the College of Agriculture to put on consecutive hitch demonstrations in certain sections of the State. During the spring period twenty-four demonstrations were given and

in the fall twenty-three. The demonstrator traveled by automobile and carried sufficient equipment to make 4, 5, 6, and 8 horse hitches. His itinerary was arranged by county agents and teachers of agriculture in the high schools. In many cases the high school classes in agriculture attended the demonstrations in a group. Since then many of the teachers have made eveners and equipment for these hitches as a part of their school laboratory work.

In promoting the better hitch work, farmers were shown the advantage of driving horses tandem, using more horses in a team, and driving them with two lines. It was pointed out that little progress has been made in driving farm horses since oxen were used, and that the common practice of driving too many horses abreast on the gang-plow should be discouraged. In showing the practicability and simplicity of the new methods, we have always urged those who furnished the horses to do the driving and to get as many others as possible to take part. Many really surprised themselves by being able to drive with ease 5 and 6 horse teams with two lines.

In putting on a demonstration it is our plan to start with four horses driven tandem. After the horses have worked about half an hour they become accustomed to their places and go as if they had been driven that way regularly. We then add another horse to the rear team on the left. This horse is tied to the hame of the center horse and "bucked back" by means of a bucking rope to the left trace of the center horse. The eveners are rearranged for 5 horses and we then have the 5-horse team driven 2 ahead and 3 in the rear working just as easily as the 4-horse hitch. To make the 6-horse hitch we add another horse to the two in front, and the three horses in the rear are driven by the "tying-in" and "bucking-back" system. The eveners are also rearranged for the 6-horse team. The new way of driving 5 horses, 3 ahead and 2 in the rear is also shown. It has its advantages and is well liked by those who use it. When one is just starting a 5-horse hitch it is probably easier to manage than the 2 ahead and 3 in the rear. However, many farmers who have used 5 horses under the old system prefer to drive 3 in the rear and 2 ahead and use the new plan for eveners and driving.

A supply of diagrams showing just how the eveners are made and the lines arranged is always distributed and explained at demonstrations. After seeing a demonstration and following the directions given it is comparatively easy for the average farmer to rearrange his equipment and start whatever kind of hitch is best suited to his situation. Farmers who have 5 or 6 horses and combine them into one team are saving man labor and increasing the efficiency of their horses. It is always interesting to see how the rate of work is increased when plenty of horse power is applied to the job. After

watching 4 horses struggle along with a gang-plow in sod and then observing the rate the plow moves when 6 horses pull it, one at once becomes enthusiastic over the new method of equalizing and driving horses in big teams.

In addition to demonstrating the plan of eveners and the "bucking-back" system of driving big teams, it is pointed out that handling a big team is not difficult and does not require expensive equipment. Most farmers have a suitable log chain and material for eveners. A few clevises and iron rings may need to be purchased. Home-made bucking ropes and tie-in chains can be made on most farms. Expensive harness equipment is not necessary for big teams. They seldom do any backing and heavy harnesses are in most cases only an extra load to be carried along. Well fitted collars strong traces are the most important parts of the harness. By using bits attached to halters on horses broken to work without blinds expensive bridles are not necessary.

Because of the interest in better hitching and the number of farmers actually making use of the system we consider these demonstrations were well worth while. The work will be carried on, showing more farmers how to apply the new method of equalizing and driving horses in big teams.

A TOAST TO THE HORSE

"Here's to that bundle of sentient nerves, with the heart of a woman, the eye of a gazelle, the courage of a gladiator, the docility of a slave, the proud carriage of a king, and the blind obedience of a soldier; the companion of the desert plain, that turns the moist furrows in the spring in order that all the world may have abundant harvest; that furnishes the sport of kings; that with blazing eye and distended nostril fearlessly leads our greatest generals through carnage and renown; whose blood forms one of the ingredients that go to make the ink in which all history is written; and who finally in black trappings, pulls the proudest and the humblest of us to the newly sodden threshold of eternity."

"One white foot, try him;
Two white feet, buy him;
Three white feet, deny him;
Four white feet and a white nose,
Skin off his hide and throw him to the crows."
-- Horse Traders' Old Maxim.

HOG FEEDING DEMONSTRATIONS IN SOUTH CAROLINA

by

J. R. Hawkins, South Carolina Extension Service.

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The 143 cars of hogs shipped from South Carolina to the market at Richmond, Va., during the last ten months is a new movement growing directly out of the 167 feeding demonstrations conducted in the State during the last two years by the Extension Service of Clemson College. These well-finished hogs, most of which topped the market, furnish a contrast to the distinctly low grade of "Southern hogs" formerly produced here. Owing to the low grade of hogs offered for sale a general feeling of antipathy toward shipping to the central markets existed among all farmers who regarded corn and hogs as necessary evils to be produced only under protest. Protein supplements were practically unobtainable and were unknown to most farmers, while forage and grazing crops were unused. It was generally conceded that hogs could not be produced at a profit even when high prices prevailed. As a result the hog population remained at only one-fourth the number needed to supply the pork products consumed in the State, with rarely a load shipped out of the State. The result was that the hogs on hand in the spring were carried over to starve in dry lots in the summer, turned out to clean up the fields in the fall, and butchered or sold in mid-winter when prices are lowest. With the local market demanding very light hogs and paying the same price for all grades, there was little incentive to use better methods and breeding stock.

The plan used in presenting the merits of better feeding, management, and better-type hogs consisted in lining up farmers with a sufficient number of hogs to finish out a carload; and getting their cooperation in feeding these hogs in the manner specified by the Extension Service. These demonstrations included those hogs left after the farm had been supplied with meat, and varied greatly as to size, age, type, and breeding. Recommendations provided for full feeding on corn supplemented with fish meal and wheat shorts were used in a few instances. Every effort was made to keep the ration as simple as efficiency would permit and to use such feed as was present and could be produced on the farms, purchasing only protein supplements. Our later demonstrations have included chiefly winter feeding with grazing on forage crops and "hogging-off" corn or corn and soy beans in the fall. Experimental evidence indicates these to be among our greatest assets in hog production and we try to make the most of them. The use of self feeders for corn and fish meal have met with immediate response and the results of their use have shown up uniformly well. Their use avoids the most common error, that of underfeeding.

The most fortunate choice for a demonstrator is the young man who not only has both corn and hogs, but likewise an open mind and the ambition to succeed with some crop which will replace part of his cotton acreage. With the details of the plan thoroughly understood by the demonstrator there are then three individuals: the farmer, the county agent, and the specialist, all of whom are responsible for the success of the venture. It is advisable to invest as much responsibility as possible in the right kind of a demonstrator. His assistance in weighing the hogs and measuring the feed not only increases his interest in the final outcome, but convicts and converts him on his own evidence which he cannot dispute. After completing one good demonstration a man is listed as a cooperator to be visited frequently to further develop his plans for hog production.

The number of hogs in a demonstration may range from 5 to 50 or more with a number between 10 and 20 as the optimum. With any number less than 5 the chance for error is relatively great while with a large number the work of measuring feed becomes burdensome unless convenient means are at hand which is seldom the case. Good results have been secured with lots numbering well above 100.

The most satisfactory method of keeping a feed record so far encountered consists of weighing or measuring out and setting aside sufficient quantity of feed to last for some time and charging same to the demonstration. Measuring feed at each feeding is so unsatisfactory as to be little better than guess work. A visit every week or ten days from the county agent or both the agent and specialist serves to keep up interest and forestall difficulties and mistakes. Lack of proper supervision is the most common cause of mortality among demonstrations.

For rapid weighing a crate with a slide door in each end which can be raised quickly has been found the most convenient. Such a crate can be placed on a platform scale at the door of the pen and with the use of a hurdle the pigs can be weighed without being either frightened or injured. In the absence of a platform scale, an ordinary cotton balance or steel-beam scale with a poise is remarkably accurate and when used with a pole over a fence as a windlass is also surprisingly quick. After a little experience a pig per minute can be weighed without difficulty. At least three weighings are necessary. The first taken when the demonstration starts. The second thirty days later serves as a check on the gains and the progress made. A check on the feed consumed during the period permits the computing of the cost of gains. This serves to encourage the feeder by indicating the profit on the operation. The final weights taken before the hogs are shipped completes the demonstration and serves as a check on the shrink incident to marketing.

In figuring results the daily gain, the feed cost per hundred pounds gain, and the return per bushel of corn should all be computed. Although there are other charges beside feed which should be considered their number is so endless and they vary so widely on different farms as to be best considered separately. The return per bushel of corn opens up the subject of marketing corn through hogs and shows the uniformly good prices received through this method. Corn production is encouraged to take the place of part of the cotton acreage and profitable employment for labor is indicated. With the low prices of hogs which prevailed last spring the average for all demonstrations showed a return of $1.27 per bushel for corn after the value of the protein supplement has been deducted.

The reluctance which the farmers first felt toward shipping hogs without first being paid for them has largely been overcome as shipments have become more common. However, at first it was found necessary to have a committee of farmers visit the market to see the hogs sold and handled in the yards and packing plant. On one occasion interest was sufficient to fill a special Pullman with farmers. Best results have been obtained by marketing early in the fall, preferably before September 20, while farmers seem better suited to sell their fall farrowed hogs early in the spring before the rush of spring work. The past two years early fall marketing had a decided advantage over shipments made a few weeks later. Shipments made in the name of a local bank eliminates the responsibility of any one individual handling the money and also secured the cooperation and a sympathetic interest from the bank.

Hogs which have been held off feed for twelve hours will apparently stand hauling and shipping in any weather regardless of how fat they may be. While icing of cars before loading has been done in a few cases of extremely adverse weather conditions; ordinarily bedding the cars three inches deep in sand and then flooding them with water is sufficient. Under this plan losses have been negligible and apparently occur only in sick or injured hogs.

The following record from the farm of J. R. White of Sumter, is typical and since it is very recent, it is of sufficient interest to include here. Fifty-six hogs weighed 3,635 pounds when turned on to four acres of corn and soy beans which was carefully estimated to yield 40 bushels of corn per acre. During the next 49 days these hogs received 950 pounds of fish meal in addition to the feed gathered. At the end of this time these hogs weighed 7,366 pounds, having made a gain of 3,731 pounds. This makes a gain of 933 pounds per acre which at 9 cents per pound, the price at which these hogs sold, gives a return of $83.95 gross per acre. Deducting $9.63, the value of the fish meal, gives $74.32 worth of pork from each acre. Calculated on a corn basis it is $1.86 per bushel. A feeding demonstration has a very great

advantage in that it admits of a very wide application to suit almost any condition. Little equipment is necessary and a minimum of outlay is required. The whole demonstration can be completed in a very short space of time, the hogs shipped and the cash evidence of the success of the project turned over to the farmer.

It has been well said that experience is what you get when things do not turn out as you expect, and by that sign hog feeding demonstrations are loaded with experiences. Certainly a well conducted feeding demonstration will completely change the mental attitude of a farmer from indifference to one of alert interest. Improved breeding stock takes on a new value. Corn and grazing crops assume the position of cash crops and attention is given to means of producing cheaper gains. Better methods of management appear necessary and equipment for the first time assumes a value. In other words the farmer has now come to a posibion where he can be helped with his hog problems. However, it takes a whole lot of demonstrations to fix a new method in a community as a common practice.

THE PSYCHOLOGY OF LEADERSHIP

Man, like animals, has a natural tendency to imitation. Imitation is a necessity for him, provided always that the imitation is easy. It is this necessity that makes the influence of what is called fashion so powerful. Whether in the matter of opinions, ideas, literary manifestations, or merely of dress, how many persons are bold enough to run counter to the fashion? It is by examples not by arguments that crowds are guided. At every period there exists a small number of individualities which react upon the remainder and are imitated by the unconscious mass. It is needful, however, that these individualities should not be in pronounced disagreement with received ideas. Were they so, to imitate them would be too difficult and their influence would be nil. For this very reason men who are too superior to their epoch are generally without influence upon it. The line of separation is too strongly marked. For the same reason, too, Europeans, in spite of all the advantages of their civilization, have so insignificant an influence on Eastern people; they differ from them to too great an extent.

-- Gustave Le Bon in "The Crowd."

Some have meat, but can not eat,
And some have none and want it;
But I have meat and I can eat,
And so the Lord be thankit.

-- Robert Burns.

A HOG FEEDING DEMONSTRATION

by
J. H. McLeod, Tennessee Extension Service.

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A swine demonstration differing somewhat from the usual type was tried out this year in Tennessee. This was a feeding demonstration to show the short comings of a corn-alone ration compared with corn with a protein supplement and corn with a protein supplement on pasture.

County Agent Shouse of Bradley County made the most complete demonstration of this kind. The demonstrators, Rollings Brothers, living near Cleveland, furnished 9 pigs that were divided into three lots of three pigs each.

Lot No. 1, was fed corn and mineral; lot 2, corn, mineral, and skim milk; lot 3, corn, mineral, and skim milk on pasture. The corn in all the lots was fed through a self feeder. The hogs were kept on feed for 120 days and the results of the demonstration are given below:

Comparative Feeding Demonstration, Bradley County

Lot	Ration	Average initial weight	Average final weight	Total average gain	Pounds corn per 100 pounds gain	Gallons milk per 100 pounds gain	Cost per 100 pounds gain
		lbs	lbs	lbs	lbs	gals	
1	Corn and mineral	41 2/3	64	22 1/3	1,130	-	$ 25.19
2	Corn, skim milk, and mineral	35	245 1/3	210 1/3	300	62	$ 7.93
3	Corn, skim milk, mineral, and pasture	38 2/3	276	237 1/3	272	55	$ 7.16

Cost of feed - Corn $1.25 per bushel; skim milk 2 cents per gallon.

Such a demonstration requires the financial cooperation of either the county fair or a civic club, as there will always be some loss on the pigs fed corn alone. In this case the Kiwanis Club of Cleveland guaranteed the Rollings Brothers against loss by agreeing to pay the difference between what the corn-alone fed pigs brought on the market and what the corn, skim milk and pasture lot brought. The cost to the Kiwanis Club was $47.20.

These pigs were shown at the county and district fair, but created the greatest interest at the county fair. "It was the main feature at our fair," said Shouse, "and attracted more attention and caused more talk than any demonstration that I have ever carried out in the county. There was always somebody around the pens in which these demonstration hogs were exhibited and the comment varied from 'Well, that just goes to prove that you can't make any money on feeding hogs on corn alone' to 'Those hogs in the first pen were just starved, I know I can grow bigger hogs than those on corn alone in a dry lot.' Anyway it has started our farmers to thinking, and we are in hopes that it will also start them toward better methods of feeding."

Then, too, it was something that interested the town people. Each pig was named after some member of the Kiwanis Club and this fact provided much cause for teasing and kept the feeding demonstration before the business men for the 120 days feeding period. And not least among the results of the demonstration, it has kept the business men interested in the problems of the farmer and the county agent and has caused them to spread the information to their farmer customers. One banker remarked: "We are so well pleased with the outcome of the pig feeding demonstration that we are willing to do anything now that Mr. Shouse might suggest."

THE NEW YEAR

Let me but live my life from year to year
With forward face and unreluctant soul;
Not hurrying to, nor turning from the goal;
Nor mourning for the things that disappear
In the dim past, nor holding back in fear
From what the future veils; but with a whole
And happy heart, that pays its toll
To youth and age, and travels on with cheer.

So let the way be up the hill or down,
O'er rough or smooth, the journey will be joy;
Still seeking what I sought when but a boy--
New friendship, high endeavor, and a crown,
My heart will keep the courage of the quest
And hope the road's last turn will be the best.

-- Henry Van Dyke.

CONCLUSIONS FROM SOFT-PORK INVESTIGATIONS

The following conclusions have been recently released by representatives of the various institutions which are cooperating in soft-pork research:

Corn and Soy Beans, Hogged Down

1. (a) Pigs with initial weights of 125 pounds or more and making an average gain of at least 1.50 pounds daily for approximately 8 weeks on corn and soy beans, hogged down, have produced firm carcasses in approximately 70 per cent of the cases. The most rapid gains were made when minerals were self-fed with the corn and soy beans. When the rate of gain was 1.40 pounds or less daily, firm carcasses were produced in approximately 50 per cent of the cases.

(b) Pigs with initial weights of 110 pounds or less and making an average daily gain up to 1.40 pounds for approximately 8 weeks on corn and soy beans, hogged down, have produced carcasses of unsatisfactory firmness in approximately 80 per cent of the cases. When the rate of gain was 1.50 pounds or more daily unsatisfactory carcasses were produced in approximately 40 per cent of the cases.

(c) Pigs with initial weights ranging from 111 pounds to 124 pounds, inclusive, have produced carcasses varying widely in firmness when fed corn and soy beans, hogged down. Within this range beginning weight was not an important factor. There was a direct relation, however, between rate of gain and firmness. Those making an average gain of 1.50 pounds or more daily for approximately 8 weeks produced firm carcasses in approximately 70 per cent of the cases, whereas those gaining 1.40 pounds or less daily for the same period produced carcasses of satisfactory firmness in about 30 per cent of the cases.

Corn and Soy Beans, Self-Fed, On Legume Pasture

2. (a) Pigs with initial weights of 75 pounds or more self-fed shelled corn and ground soy beans with or without mineral mixture,* free choice, on legume pasture have produced carcasses of satisfactory firmness in the usual case when the rate of gain was 1.65 pounds or more per day for a period of 13 weeks.

(b) Pigs with initial weights of 50 pounds or less self-fed shelled corn and ground soy beans with or without mineral mixture,* free choice, on legume pasture have produced carcasses of unsatisfactory firmness in the usual case when the rate of gain was 1.40 pounds or less for a period of 15 weeks.

(c) Pigs with initial weights between 50 pounds and 75 pounds self-fed shelled corn and ground soy beans with or without mineral mixture,*

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* A good mineral mixture should be fed with corn-and-soy-bean rations for best results.

free choice on legume pasture have produced carcasses varying widely in firmness when the rates of gain were between 1.40 pounds and 1.65 pounds per day for a period of approximately 13 to 15 weeks.

Corn with Soy Bean Oil Meal

3. Pigs with initial weights ranging from 30 pounds to 60 pounds were fed to a weight of approximately 100 pounds on rations composed of (1)corn and soy-bean oil meal, (2) corn, soy-bean oil meal, and alfalfa meal, and (3) corn, soy-bean oil meal, alfalfa meal, and linseed meal, containing from 14.3 per cent to 14.9 per cent of soy-bean oil meal. They were then fed to an average finished weight of approximately 215 pounds on the same mixture in each case, modified to contain from 9.9 per cent to 12.3 per cent soy-bean oil meal. Under these conditions firm carcasses were produced in the usual case. Supplementary minerals were fed with all of the rations. The soy-bean oil meals fed varied from 5.7 per cent to 7.5 per cent in fat or oil content.

Rate of Gain

4. Results have shown that rate of gain is an important factor when rations are fed which ordinarily produce carcasses of satisfactory firmness when the hogs have attained finished weight and condition. Hogs making slow gains in the experiments on such rations usually produce less satisfactory carcasses than those making rapid gains.

Rice Bran Followed by Brewers' Rice

5. Pigs with initial weights ranging from 50 to 114 pounds fed rice bran followed by brewers' rice as the basal feeds for periods of approximately 8 weeks on each ration and making gains of a pound or less per day on the rice-bran ration and an average of approximately 2 pounds per day on the brewers' rice rations have produced carcasses of satisfactory firmness in the usual case.

Rice Bran or Rice Polish Followed by Corn and Brewers' Rice

6. Pigs with initial weights of 115 pounds or more fed rice bran or rich polish as the basal feed for approximately 8 weeks followed by a hardening ration, in which corn was the basal feed, for approximately 8 weeks have produced carcasses of moderate firmness in the usual case when the gain on the hardening ration was equal to or greater than the gain on the softening ration. When brewers' rice was fed instead of corn during the hardening period carcasses of still greater firmness were produced when conditions with respect to relative gains on the softening and hardening rations were the same for the corn-hardened pigs.